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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,678	07/23/2003	Hikaru Sugita	5988-054-27	6692

7590 07/22/2004

Supervisor, Patent Prosecution Services
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EXAMINER

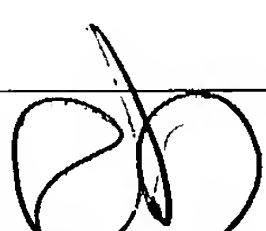
LEE, RIP A

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/624,678	Applicant(s) SUGITA ET AL.	
	Examiner Rip A. Lee	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 7 is/are allowed.
- 6) ☒ Claim(s) 5 and 8 is/are rejected.
- 7) ☒ Claim(s) 5,6,9 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities: Change “The antireflection” to “An antireflection.” Appropriate correction is required.
2. Claims 6 and 9 are objected to under 37 CFR 1.75(c) as being in improper, multiple-dependent form because it makes reference to two sets of claims to different features. See MPEP § 608.01(n). Accordingly, claim 6, as well as dependent claim 9, have not been further treated on the merits.
3. Claim 10 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 7. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 6-161111 to Murata *et al.*

The present claims are drawn to a film-forming composition comprising a polymer having a structural unit represented by general formula (4) and solvent. Murata *et al.* discloses radiation sensitive resin compositions comprising units derived from styrene substituted with $-\text{CH}_2\text{OCOOR}$ and $-\text{CH}_2\text{OCH}_2\text{CH}_2\text{COOR}$ groups (see structures on page 4). Since the present claim indicates that substituent R^4 is a monvalent organic group, the structures presented in Murata *et al.* adequately satisfy the structural limitations set forth in the claims. Solvents are discussed in paragraph [0057], and compositions of polymer and solvent are used to cast resist films on silicon wafers (paragraph [0059]). Use of acid generating compounds is discussed extensively on pages 8 and 9. In sum, all aspects of the present claims is taught adequately in the prior art of Murata *et al.*

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6. Claims 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,654,121 to Eichorn *et al.*

The present claims are drawn to a film-forming composition comprising a polymer having a structural unit represented by general formula (4) and solvent. Eichorn *et al.* teaches a binder based on poly(4-hydroxymethylstyrene) (claim 8). The polymer satisfies the structural requisites of formula (4) in that R^4 is hydrogen and $n = 0$. According to the practice of the invention, the binder is spin coated onto anodized aluminum plates (see example 6). As can be seen in the table, the coating solution contains solvent (in this case, methyl ethyl ketone), and it is clear that the solution forms a film. Finally, the composition also contains an acid-forming compound (claims 9-12). As such, all aspects of present claims 5 and 8 are described in Eichorn *et al.*

Allowable Subject Matter

7. The following is a statement of reasons for the indication of allowable subject matter: Claims 1-4 and 7 are allowed over the cited prior art (see PTO-892). None of the references which qualifies as prior art teaches or fairly suggests compounds of general structures (1) and (2). It follows that polymers (3) derived therefrom are also not taught in the prior art.

Prior Art

7. The prior art made of record but not relied upon is considered pertinent to the Applicant's disclosure.

Carpino *et al.* (*J. Org. Chem.*, 1964) discloses the compound 5,6-acenaphthylenedimethanol. This compound is analogous to that of claim 2 except there are two hydroxymethyl groups instead of only one, as claimed.

The following references have been cited to show the state of the art with respect to polymers of acenaphthylene.

U.S. Patent No. 4,604,438 to Beuhler <i>et al.</i>	JP 58-38711
U.S. Patent No. 4,373,046 to Hagiwara <i>et al.</i>	JP 57-135818
U.S. Patent No. 4,093,678 to Bailey <i>et al.</i>	JP 56-122862
U.S. 2002/0086934 to Kawaguchi <i>et al.</i>	JP 3-100005
JP 61-285233	JP 2002-3543

The following references teach to polymers containing units derived from hydroxymethylstyrene.

U.S. Patent No. 5,866,659 to Chung *et al.*
U.S. Patent No. 5,629,393 to Varshney *et al.*
U.S. Patent No. 4,569,963 to Hisaki *et al.*

Information Disclosure Statement

8. The information disclosure statement cites EP 1 205 805 to Kawaguchi *et al.* The patent has also been cited in a European search report as an "X" reference against the present claims. Closer inspection reveals that whereas the present claims requires at least a methylene group bonded to the acenaphthylene ring (*i.e.*, hydroxymethyl, -CH₂OH), the compounds in the prior art contain heteroatom-containing substituents bound directly to the carbocyclic skeleton (*i.e.*, hydroxy, -OH). Clearly, the compounds are not the same, and therefore, the present invention can not be anticipated by Kawaguchi *et al.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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July 16, 2004



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SUPERVISORY PATENT EXAMINER
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